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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,630	09/27/2000	Jer-Chen Kuo	A0638.019	6172
37771	7590	11/28/2006	EXAMINER PHAN, HANH	
MCNICHOLS RANDICK O'DEA & TOOLIATOS, LLP 5000 HOPYARD ROAD, SUITE 400 PLEASANTON, CA 94588			ART UNIT 2613	PAPER NUMBER

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/670,630

Applicant(s)

KUO ET AL.

Examiner

Hanh Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 7-12 is/are rejected.
- 7) ☒ Claim(s) 2-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 09/20/2006.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masucci et al (US Patent No. 6,498,667) in view of Sierens et al (US Patent No. 5,930,262) **OR** Wright et al (US Patent No. 6,411,410).

Regarding claims 1 and 8-11, referring to Figure 1, Masucci teaches an optical communication network comprising :

an optical transmission line (i.e., optical transmission 16, Fig. 1);

an optical line terminal (i.e., central terminal 12, Fig. 1) connected to the optical transmission line;

a plurality of optical network units (i.e., remote terminals 14, Fig. 1) connected to the optical line terminal (12, Fig. 1) and configured for optically transmitting TDMA signals of a wavelength (i.e., optical carrier OC 3, col. 4, lines 1-8) to the optical line terminal (12, Fig. 1) through the optical transmission line (16, Fig. 1)(i.e., col. 3, lines 30-67 and col. 4, lines 1-64).

Masucci differs from claims 1 and 8-11 in that he fails to teach a first plurality of optical network units connected to the optical line terminal and configured for optically transmitting TDMA signals of a first wavelength through the optical transmission line and a second plurality of optical network units connected to the optical line terminal and configured for optically transmitting TDMA signals of a second wavelength different than the first wavelength to the optical line terminal through the optical transmission line.

Sierens, from the same field of endeavor, likewise teaches a system comprising a central station coupled to each of a plurality of terminal stations (Fig. 2). Sierens further teaches a first plurality of terminal stations TS1-TSn (i.e., subgroup 1, Fig. 2) connected to the central station CS and configured for optically transmitting TDMA signals of a first wavelength to the central station CS through the optical transmission line and a second plurality of terminal stations TS1-TSn (i.e., subgroup 2, Fig. 2) connected to the central station CS and configured for optically transmitting TDMA signals of a second wavelength different than the first wavelength to the central station CS through the optical transmission line (i.e., col. 6, lines 8-19 and col. 8, lines 22-32). OR Wright, from the same field of endeavor, likewise teaches a passive optical networks comprising an optical line terminal 12 coupled to a plurality of optical network units ONU1-ONU5 (Figs. 1 and 2). Wright further teaches that all the ONUs 14-1 to 14-5 transmit data in a predetermined TDMA format to the OLT 12 and more than one wavelength could be used by the ONUs to transmit data to the OLT 12 (i.e., col. 6, lines 25-30). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the first plurality of optical network units connected to

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the optical line terminal and configured for optically transmitting TDMA signals of a first wavelength through the optical transmission line and the second plurality of optical network units connected to the optical line terminal and configured for optically transmitting TDMA signals of a second wavelength different than the first wavelength to the optical line terminal through the optical transmission line as taught by Sierens OR Wright in the system of Masucci. One of ordinary skill in the art would have been motivated to do this since allowing reducing the interference between the signals, avoiding the collisions at the central station and providing the optical communication system with high speed and high capacity and reducing the cost of the system.

Regarding claim 7, Masucci further teaches the optical transmission line (16, Fig. 1) is fiber optic line.

Regarding claim 12, Masucci further teaches the network has an architecture selected from the group consisting of ring, tree and bus architectures (i.e., tree architecture, Fig. 1).

4. Claims 1 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor (US Patent No. 5,872,645) in view of Sierens et al (US Patent No. 5,930,262) OR Wright et al (US Patent No. 6,411,410).

Regarding claims 1 and 8-11, referring to Figures 1A and 1C, Proctor teaches an optical communication network comprising an optical transmission line, an optical line terminal (i.e., headend, Fig. 1C) connected to the optical transmission line, and N optical network units (i.e., NTEs and ONUs, Fig. 1C), each of the optical network units

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being connected to a communicating with the optical line terminal (HEADEND, Fig. 1C) at one wavelength using a TDMA protocol (i.e., col. 2, lines 17-26, col. 3, lines 3-16 and see abstract section).

Proctor differs from claims 1 and 8-11 in that he fails to teach a first plurality of optical network units connected to the optical line terminal and configured for optically transmitting TDMA signals of a first wavelength through the optical transmission line and a second plurality of optical network units connected to the optical line terminal and configured for optically transmitting TDMA signals of a second wavelength different than the first wavelength to the optical line terminal through the optical transmission line.

Sierens, from the same field of endeavor, likewise teaches a system comprising a central station coupled to each of a plurality of terminal stations (Fig. 2). Sierens further teaches a first plurality of terminal stations TS1-TSn (i.e., subgroup 1, Fig. 2) connected to the central station CS and configured for optically transmitting TDMA signals of a first wavelength to the central station CS through the optical transmission line and a second plurality of terminal stations TS1-TSn (i.e., subgroup 2, Fig. 2) connected to the central station CS and configured for optically transmitting TDMA signals of a second wavelength different than the first wavelength to the central station CS through the optical transmission line (i.e., col. 6, lines 8-19 and col. 8, lines 22-32). OR Wright, from the same field of endeavor, likewise teaches a passive optical networks comprising an optical line terminal 12 coupled to a plurality of optical network units ONU1-ONU5 (Figs. 1 and 2). Wright further teaches that all the ONUs 14-1 to 14-5 transmit data in a predetermined TDMA format to the OLT 12 and more than one wavelength could be

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used by the ONUs to transmit data to the OLT 12 (i.e., col. 6, lines 25-30). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the first plurality of optical network units connected to the optical line terminal and configured for optically transmitting TDMA signals of a first wavelength through the optical transmission line and the second plurality of optical network units connected to the optical line terminal and configured for optically transmitting TDMA signals of a second wavelength different than the first wavelength to the optical line terminal through the optical transmission line as taught by Sierens OR Wright in the system of Proctor. One of ordinary skill in the art would have been motivated to do this since allowing reducing the interference between the signals, avoiding the collisions at the central station and providing the optical communication system with high speed and high capacity and reducing the cost of the system.

Regarding claim 7, Proctor further teaches the optical transmission line (i.e., Fig. 1C) is fiber optic line.

Regarding claim 12, Proctor further teaches the network has an architecture selected from the group consisting of ring, tree and bus architectures (i.e., tree architecture, Fig. 1C).

Allowable Subject Matter

5. Claims 2-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Response to Arguments

6. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.


HANH PHAN
PRIMARY EXAMINER